The SEAS Office of Undergraduate Student Affairs and Global Programs in partnership with the Engineering Student Council will be holding an Undergraduate Summer Research Symposium and Fair on September 27, 2012 from 5-8 pm in 555 Lerner. The event will have two components: 1) a presentation by SEAS faculty to promote undergraduate research opportunities in their labs (5-6:15 pm); and 2) a poster presentation at which 21 SEAS students will showcase their summer research (6:15-7:45 pm), undertaken at Columbia, and other universities both domestic and international. Light refreshments will be served.

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**Three Dimensional Microtubule Assembly in the Presence of Poly-L-Lysine**

Megan Armstrong, SEAS ’13, Biomedical Engineering; Ruchir Khaitan, SEAS ’15, Computer Engineering; Hari Raman, SEAS ’14, Biomedical Engineering; Veronica Reynolds, SEAS ’14, Materials Science and Engineering; Elyse Shapiro, BC ’14, Biology

**Research Undertaken at the Venkataraman Lab in Single Molecular Circuits**

Tanay Doctor, SEAS ’15, Earth and Environmental Engineering

**Lightweight, Inexpensive, and Human-Friendly Methods for Design in Assistive Robotics**

Haris Durrani, SEAS ‘15, Applied Physics; Brendan Chamberlain-Simon, SEAS ’15, Mechanical Engineering; Angel Say, SEAS ’13, Mechanical Engineering

**Plasmid Constructions for Analysis of CRISPR-Cas System in *Escherichia coli***

Claire Duvallet, SEAS ‘13, Biomedical Engineering

**Classification of Heart Enhancers in Drosophila**

Julian Haimovich, SEAS ’13, Applied Mathematics

**Hydrology Simulations on Basalt Soil for the Landscape Evolution Observatory (LEO)**

Christina Hernandez, SEAS ’14, Earth and Environmental Engineering

**Effect of the Use of Recycled Concrete Aggregate on the Mechanical Properties of Concrete**

Kenneth Ho, SEAS ’13, Civil Engineering, et al.

**Optimizing the Conductivity of Textiles via Atomic Layer Deposition for Pressure Sensitivity**

Jeremy Jones, SEAS ’14, Chemical Engineering

**CAD Modeling of Tall Building Structural Systems for use in FEM Simulations**

Claire Kao, SEAS ’14, Civil Engineering; et al.

**On-chip Security Test for High-Dimensional Quantum Key Distribution**

Prashanta Kharel, SEAS ‘13, Department of Electrical Engineering; et al.

**Identification of a Novel Long Non-coding RNA in Cardiac Differentiation**

N.H. Diane Kim, SEAS ‘14, Biomedical Engineering

**Q-Potts Simulation of Breast Cancer Cell Morphologies**

Esha Maharishi, SEAS ’15, Computer Science

**Projecting Future Farm Distribution**

Andrew Mercer-Taylor, SEAS '15, Computer Science

**Microalgae Preconcentration by Sedimentation and by Addition of Montmorillonite Clay Coagulant**

Elizabeth T. Murray, SEAS ’13, Chemical Engineering; et al.

**Novel Efficient Microbial Fuel Cell Anodes Using Activated Carbon Nanofiber Nonwoven**

Radhe Patel, SEAS ’15, Chemical Engineering; et al.

**Effect of Thermal Cycling on Barrier Layers for Environmental Protection of Nickel-Based Alloy 617**

Connie Phung, SEAS ‘15, Mechanical Engineering; et al.

**Mediated Reality for the Masses: An Investigation into the Viability of a Low Cost Mediated Reality System**

Andrew E. Pope, SEAS ’15, Computer Science

**Electronics for the Vertical Slice Test of the MicroBooNE Light Collection System**

Kathleen Tatem, SEAS ’13, Applied Physics

**Conductance of Nickel and Iron Mononuclear Complexes in Methyl-Sulfide Linked Single-Molecule Junctions**

Ari B. Turkiewicz, SEAS ’15, Chemical Engineering

**Diagnosis of Osteoarthritis via Laser Speckle Rheology**

Kapil Wattamwar, SEAS ’13, Department of Biomedical Engineering; et al.

**Pickering Emulsion Optimization Using Silica Nanoparticles**

Kendra Windsor, SEAS ’13, Chemical Engineering; et al.